

CHAPTER 6. OPERATIONS

An operation is a military action or the carrying out of a strategic, tactical, service, training or administrative military mission; the process of carrying on combat, including movement, supply, attack, defense and maneuvers needed to gain the objectives of any battle or campaign. (JP 1-02). In support of U.S. military operations, Marine forces are organized and equipped specifically to meet the requirements of expeditionary operations. (MCDP 3, *Expeditionary Operations*). Expeditionary operations are military operations conducted by an armed force to accomplish a specific objective in a foreign country. Expeditionary operations involve projecting a force into a crisis or conflict by establishing forward bases (land- or sea-based) from where military operational power can be brought to bear on the tactical situation. Expeditionary operations are temporary in nature. They are conducted with the intent of withdrawing from the foreign country after the specific task or mission has been accomplished.

MAGTF ANTI-AIR EMPLOYMENT

The MAGTF is the Marine Corps' primary tactical organization for conducting missions across the spectrum of military operations. Each MAGTF has a command, ground combat, aviation combat, and combat service support element. Each element contributes directly or indirectly to the MAGTF's AAW operations. Regardless of the MAGTF's task organization, each MAGTF element commander is responsible for conducting passive air defense operations.

The Marine Expeditionary Force

The Marine expeditionary force (MEF) is the principal Marine Corps warfighting organization. It is usually employed in support of larger crises or contingencies. It is capable of missions across the range of military operations, particularly amphibious assault and sustained operations ashore in any environment.

The MEF's AAW resources enable it to perform all missions as described in chapters 2 and 3, and fully integrate into the aviation operations and air defense architecture of a joint or multinational force using the command and control structure described in chapter 4. The MEF's AAW resources normally include—

- 1 A Marine aircraft wing with squadrons of fixed- and rotary-wing aircraft that conduct all AAW missions.
- 1 Short-range surface-to-air missile systems for air defense against aircraft.
- 1 A MACCS that can execute centralized command and decentralized control of AAW operations (including air command, direction, surveillance, and control) and integrating MAGTF AAW operations with those of the joint or multinational force.

The MEF is an enabler for certain joint force functional requirements. In AAW operations, capabilities include performing as the joint force air component commander and hosting his associated command post, i.e., the joint air operations center; and coordinating joint force air defense operations as the area air defense commander (AADC) or as a regional or sector air defense commander (SADC) under the AADC.

The Marine Expeditionary Brigade

The Marine expeditionary brigade (MEB) is the mid-sized MAGTF normally employed to conduct operations that bridge the gap between our principal warfighter (the MEF), and the MEU. The MEB is normally a self-contained operating force capable of missions that require sustained operations for up to 30 days. The MEB is capable of conducting independent amphibious assault operations, maritime prepositioning force (MPF) operations or operate/serve as the advanced echelon of a MEF.

MEB AAW resources can be task-organized to perform many of the missions as described in chapters 2 and 3, and integrated (to a lesser degree than a MEF) into the aviation operations and air defense architecture of a joint or multinational force. This is accomplished by using task-organized portions of the command and control structure described in chapter 4. MEB AAW resources normally include—

- 1 A composite Marine aircraft group (MAG) task-organized with fixed- and rotary-wing aircraft to conduct OAAW and air defense missions.
- 1 A short range surface-to-air missile detachment for air defense against aircraft.
- 1 A MACCS capable of executing centralized command and decentralized control of AAW operations critical to the MAGTF. This MEB C2 system may be task-organized to perform functions

as the JFACC and AADC if required to integrate with a joint or multinational force.

The Marine Expeditionary Unit (Special Operations Capable)

The Marine expeditionary unit (special operations capable) (MEU(SOC)) is the standard forward-deployed Marine expeditionary organization. It is normally used as a self-contained operating force capable of missions of limited scope and duration, and may act as a forward-deployed extension of the MEF. AAW capabilities typically include—

- ┆ A composite squadron of fixed- and rotary-wing aircraft that conduct limited OAAW and air defense operations.
- ┆ A reinforced short-range surface-to-air missile section.

Because of its limited size and scope of its operations, the MEU(SOC) relies on the NEF to fill most of its AAW requirements. The NEF typically provides for air defense of the MEU(SOC) and its accompanying amphibious ready group and OAAW resources from naval surface fire support and carrier-based aircraft. The NEF provides the majority of command and control to the MEU(SOC).

The MEU(SOC) contributes to NEF AAW efforts with its infantry, artillery, aircraft, and surface-to-air missiles. Its aircraft and man-portable surface-to-air missiles can augment the amphibious ready group's air defense efforts during emergency defense.

The Special Purpose MAGTF

The special purpose MAGTF (SPMAGTF) conducts a specific mission that is limited in scope, focus, and often in duration. The SPMAGTF may be a force of any size, but is normally small. SPMAGTF AAW capabilities are specifically tied to its task organization.

AIR DEFENSE PRIORITIES

Once air defense priorities are assigned to MAGTF assets, the assets are defended in order of priority by the supporting air defense units.

In determining his air defense priorities, the MAGTF commander evaluates his assets and determines the relative importance of each asset to the MAGTF's ability to accomplish its mission. The supporting air defense unit commander balances his force availability against the MAGTF commander's list of critical assets. Beginning with the most important asset, the air defense unit commander determines, based on his experience, the assets his forces can defend. Then he recommends to the MAGTF commander, via the ACE commander, that these assets receive air defense priority. The following factors determine the relative importance of an asset and its need for air defense.

Criticality

Criticality is the degree to which the asset is essential to mission accomplishment. If prioritizing, assets are categorized as those that—

- ┆ Prevent mission accomplishment if damaged.
- ┆ Interfere with the immediate accomplishment of the mission if damaged.
- ┆ Interfere with the eventual accomplishment of the mission if damaged.
- ┆ Slightly restrict the mission accomplishment if damaged.

Vulnerability

Vulnerability is the susceptibility of a nation or military force to any action that reduces or eliminates its will or desire to fight. Vulnerability also includes the susceptibility of a system; e.g., a command and control system or an IADS to actions that degrade its effectiveness. Useful factors to determine an asset's vulnerability include—

- ┆ The mission.
- ┆ Hardness (resistance to destruction or degradation).
- ┆ Mobility (if it can disperse or displace to another position while protected by other air defense weapons).
- ┆ Passive air defense protection ability.

Recuperability

Recuperability reflects the degree an asset can recover from inflicted damage. Recuperability is expressed in terms of time, equipment, manpower, and ability to perform its mission.

Threat Characteristics

Threat characteristics determine which weapon provides the most economical active air defense of a MAGTF asset. Threat characteristics include targeting information provided by intelligence estimates, past enemy attack methods, enemy location and strength, type of enemy aircraft and ordnance, and enemy doctrine.

Once the MAGTF commander has established his air defense priorities, air defense employment principles and guidelines provide the basis for employment of air defense weapons in the MAGTF's IADS.

AIR DEFENSE EMPLOYMENT PRINCIPLES

Air defense employment principles provide an IADS that prevents enemy air attacks from interfering with the MAGTF's mission.

Mobility

Mobility is crucial to air defense. The MAGTF's air defense systems must be highly mobile and rapidly deployable to provide continuous protection for maneuver elements and provide self-defense.

Weapons Mass

Weapons mass allocates sufficient air defense resources to defend priority MAGTF assets or areas adequately. Weapons mass is achieved by concentrating ground-based and airborne air defense assets on and around a vital area to defend it from enemy air attack. The ability to mass weapons depends on effective command and control.

Weapons Mix

Weapons mix blends aircraft, SAWs, and small arms to achieve a balanced, complementary air defense system that complicates the enemy's ability to attack the MAGTF. Weapons mix offsets the limitations of one air defense system with the capabilities of another, strengthens the MAGTF's IADS, and degrades the enemy's ability to respond.

Integration

Integration is the close coordination of effort and unity of action that results from the efficient blending of individual air defense systems. It conserves fires and eliminates unnecessary multiple engagements of the same target by different assets. If the MAGTF IADS is to support the battle for air superiority, it must be integrated into MAGTF operations. Command and control provides the means to coordinate and control the MAGTF IADS.

AIR DEFENSE EMPLOYMENT GUIDELINES

Air defense employment guidelines aid commanders in tailoring the air defense of a specific MAGTF. The size, shape, and inherent air defense assets of the MAGTF determine the guidelines for employment.

Balanced Fires

Balanced fires result from positioning air defense assets so they can provide equally defensive fires from all directions. Balanced fires take on added importance when faced with a 360 degree threat from enemy air attack.

Weighted Coverage

Weighted coverage results from concentrating air defense weapons toward known enemy locations, unprotected unit boundaries or likely enemy attack corridors or routes.

Mutual Support

Mutual support results from positioning individual assets so they deliver fires into dead zones that surround adjacent assets. Mutual support enhances defensive survivability. The required maximum distance between air defense units and assets to achieve mutual support varies depending on the type of air defense weapon and the speed and altitude of the threat.

Early Engagement

Early engagement is the engagement of aircraft before their release of ordnance at the maximum range of surveillance and weapons systems. Air defense assets should be positioned far enough from the defended

asset or area to allow engagement of enemy aircraft before they deliver their ordnance. The distance between the defended area and the defending assets will vary. The enemy threat, ordnance, delivery methods, and the type of MAGTF air defense assets determine the distance between the defended area and the defending assets.

Overlapping Fires

Overlapping fires occur when individual air defense units' engagement zones overlap. Overlapping fires reduce the possibility of enemy aircraft slipping through the MAGTF's air defense without being engaged by at least one air defense unit.

Defense-in-Depth

Defense-in-depth results from positioning air defense assets so enemy aircraft meet an increasing volume of fire as they approach a defended asset or area. The MAGTF IADS maximizes the effects of defense-in-depth by integrating and coordinating all air defense weapons.

SELECTING AND POSITIONING AIR DEFENSE WEAPONS

Force protection considerations are critical during MAGTF operations. The MAGTF's mission, task organization, concept of operations, and the anticipated threat are the principal factors that determine the weapons to protect the MAGTF from aircraft and missile attacks. Other factors to consider to determine the number and disposition of ground-based and airborne air defense weapons systems include—

- ┆ Availability of fighters and fire units.
- ┆ Terrain (topography and accessibility).
- ┆ Type of defense.
- ┆ Coverage by other air defenses.
- ┆ Nature of the enemy threat (ground-based and airborne).
- ┆ Coverage and limitations of ground-based radars and adjacent fighters and fire units.
- ┆ Minimum safe intercept point for each type of threat.
- ┆ Enemy weapons delivery technique.
- ┆ Attack altitude and speed.
- ┆ Available ordnance.
- ┆ Likely avenues of approach.
- ┆ Anticipated rates of attack.
- ┆ Time lapse between target detection and interception.
- ┆ Communications requirements.
- ┆ Airspace, air defense, and fire support coordinating measures.

EMPLOYMENT OF GROUND-BASED AIR DEFENSE WEAPONS

Surface-to-air weapons provide the ground-based air defense of the MAGTF's IADS. Positioning ground-based air defense weapons is affected by the type of defense desired and specific system site considerations.

Point defenses are usually located in the MAGTF's rear area to achieve balanced fires, early engagement, destruction-in-depth, and mutual support. Normally, point defenses do not have enough assets to provide weighted coverage in more than one direction and still protect the defended asset from attack from an unexpected direction.

Air defenses are usually located in a forward zone to achieve destruction in-depth, mutual support, early engagement, and weighted coverage. Normally, area defenses do not attempt to achieve balanced fires. Area defenses are designed to prevent penetration from the rear, and they usually provide defense in-depth along expected avenues of approach. If a limited number of air defense systems are available, area defenses may be forced to forego early engagement along more than one threat axis to achieve continuous coverage over a broad territory.

Stinger elements must consider friendly positions and ensure that requirements in their sites do not exceed the bounds of the supported unit's security area. To avoid revealing friendly force locations to the enemy, supported units may restrict areas where Stinger weapons can be fired. Each Stinger unit commander, down to and including team leaders, must coordinate with supported or adjacent friendly forces' firing site requirements and support the friendly scheme of maneuver. See MCWP 3-25.10 for details on Stinger sites.

Considerations for the location of man-portable Stingers include—

- | Enemy air threat, including air delivery methods and tactics.
- | Mission and disposition of the defended unit(s)/ installation(s).
- | Commander's guidance concerning elements or installations to be defended and their order of priority.
- | Capabilities of other MACCS agencies to provide integrated air defense and early warning.
- | Stinger weapon system capabilities and limitations.
- | Availability of firing and alternative firing positions.
- | Location and coverage of other air defense means.
- | Clarity of fields of fire.
- | Disposition/control procedures while embarked.

EMPLOYMENT OF AIRBORNE AIR DEFENSE WEAPONS

Aircraft manning combat air patrols (CAPs) are the airborne air defense weapons of the MAGTF's IADS. In the MAGTF's IADS, CAP is the maneuver element. CAP employment, positioning, and tactics must be considered to optimize CAP effectiveness in the MAGTF's IADS. Fighter/radar CAP capabilities are flexible and blend with the principles of destruction-in-depth and mutual support. Destruction in-depth normally places the fighters forward of ground-based air defense weapons in the MAGTF integrated air defense system as the first line of defense. Weapon engagement zones are placed in line with the threat axis to allow CAPs to continuously engage threat aircraft during their ingress and egress.

Placement of CAPs should facilitate engagement of enemy aircraft as far from the vital area or defended asset as practical. This may or may not correspond to the maximum surveillance range of the TAOC's radars because of terrain masking and airspace limitations. CAP engagements should occur before the enemy reaches its weapons release point. This requires some form of extended range combat air patrols and expanded air intercept zones, which extend well forward of the forward line of own troops.

Altitude

An altitude should be high enough to provide low-altitude surveillance coverage denied to TAOC radars.

Search Patterns

Search patterns should be tailored to anticipate threat tactics and TAOC surveillance gaps.

Speed

CAP aircraft speed should be based on threat and time on station requirements.

Formation

Synchronized, single, night, and all-weather CAPs require special consideration. Refer to appropriate Naval air training and operating procedures standardization (NATOPS) manuals for more details.

Commit Criteria

Commit criteria should be established within the confines of mission requirements and ROE.

Rules of Engagement

ROE should be established during the planning process and continuously evaluated to provide fighters with the opportunity to use offensive tactics.

Intercept Tactics

Aggressive tactics should be used to destroy enemy aircraft, break up strike packages, and negate the effects of enemy fighters.

Manning and Relieving

Defense conditions and available assets determine the CAP manning plan. Procedures should be established for sufficient IADS coverage.

Situational Awareness

Communications flow between IADS control agencies and weapon platforms should be determined and transmitted to all potential users to facilitate situational awareness.

WEAPON ENGAGEMENT ZONE

Establishing weapon engagement zones is imperative to protect MAGTF vital areas. The MAGTF

commander uses the weapon engagement zone concept to define zones of responsibility to a weapons system; e.g., aircraft or surface-to-air weapons. Weapon engagement zones enhance weapons systems capabilities and offensive tactics (fire and maneuver) by fighters. If possible, the MAGTF commander should select recognizable terrain features to define a weapons engagement zone. A weapon engagement zone should offer—

- ┆ Well-defined responsibilities for all weapons.
- ┆ Concentration of firepower.
- ┆ The ability to use offensive tactics for radar fighters.
- ┆ Ease of command and control
- ┆ Less restrictive weapons engagement conditions.

Each weapon system; e.g., Stinger or F/A-18 has specific requirements for optimum location and employment. The ACE commander must determine the number and location of air defense assets for effective air defense of MAGTF air defense sectors based on input from the TACC, SAAWC/TAOC, and GCE and CSSE commanders. Number, location, and composition of aircraft for CAP stations to defend against the enemy threat in fighter engagement zones must be determined. The ACE commander, with input from the SAAWC, determines the number of aircraft on station, ground or airborne alert and the aircraft's secondary air defense mission. He also determines the number, location, and composition of surface-to-air weapons needed in the missile engagement zone to defend against the enemy threat.

Weapon engagement zone activation and deactivation procedures must be clearly outlined for adequate air defense coverage of the MAGTF's air defense sectors. Normally, the SAAWC or TAOC is tasked with activation/deactivation responsibility. Activation occurs as surface-to-air weapons or aircraft become operational and assume responsibility for air defense of a particular weapon engagement zone; i.e., fighter or missile engagement zone. A weapon engagement zone is deactivated if a surface-to-air weapons unit is degraded, destroyed or inoperable because of maintenance or if aircraft cannot provide coverage in a fighter engagement zone. When part of or an entire weapon engagement zone is deactivated, another weapon engagement zone is normally activated to provide air defense coverage in that area.

Minimal, dedicated, full-time aircraft may be required on station in the weapon engagement zone if timely in-

telligence and early warning threat surveillance within the weapons engagement zone is present. Ground or strip-alert aircraft may be used to meet the air defense requirement within the weapon engagement zones. Dedicated on station aircraft may be required to ensure the integrity of the MAGTF IADS if timely intelligence and surveillance are unavailable.

WEAPONS MANAGEMENT

Weapons management is integrating and coordinating assets allocated for AAW missions and specifically operation of the MAGTF's IADS. Weapons management responsibilities start with the ACE commander and extend to the individual aircrew/missile unit; i.e., TAOC, SAAWC or weapon platforms.

Air Defense Warning Conditions

Air defense warning conditions indicate a degree of air raid probability. They are passed by the senior air control agency to all MAGTF elements. Warning conditions may differ between areas of the battlespace due to the tactical situation and localized enemy air threat. The three air defense warning conditions are—

- ┆ Red - attack by hostile aircraft is imminent or in progress.
- ┆ Yellow - attack by hostile aircraft is probable.
- ┆ White - attack by hostile aircraft is improbable.

Rules of Engagement

ROE are directives issued by competent military authority which delineate the circumstances and limitations under which United States forces will initiate and/or continue combat engagement with other forces encountered. (JP 1-02) As this relates to the ACE, ROE identify the exact conditions under which aircraft and missile batteries may engage a target (airborne or on the ground). Equipment, discipline, and principles for the employment of MAGTF aviation under the different ROE do not change. What is mitigated is the degree of force applied. ROE always allow the right of self-defense.

Identification Criteria

Identification criteria are closely related to ROE. While identification criteria describe the conditions to declare unknown personnel or equipment as either

friendly or hostile, ROE cannot be applied until identification occurs. Generally, it is more difficult to distinguish hostiles from friendlies (or unknowns) in MOOTW than in combat. This difficulty results in more restrictive ROE. There is an inverse relationship between the ease of identification and the restrictiveness of ROE.

Weapons Control Status

Weapons control statuses define the restrictions on firing air defense weapons for a particular area and time period. Weapons control statuses may vary to apply only to specific aircraft, weapons systems or targets, e.g., assigning a status of weapons free against all targets with ballistic trajectories and weapons tight against all air breathing targets for all ground-based air defense units. Weapons control statuses follow:

- 1 Weapons free - fire at any target that is not positively identified as friendly.
- 1 Weapons tight - fire only at targets positively identified as hostile in accordance with prevailing target identification criteria.
- 1 Weapons hold - do not fire except in self-defense or in response to a formal fire control order.

Tactical Air Command Center

The ACE commander and battlestaff provide overall coordination and management of the weapons platforms allocated for the air defense mission. The ACE commander coordinates weapons management within the TACC via watchstanders from future operations and current operations. The TACC initiates coordination with a Marine aircraft group, Marine air control group, forward operating bases, and the joint force.

Ordnance availability; fuel availability or consumption; time on station of committed aircraft; and aircraft launch, recovery, and turnaround priority are time-sensitive issues requiring coordination and management among the members of current operations. Through its management of the current ATO, current operations also has the authority to cancel, divert or change missions to meet the needs of the current situation.

Current operations maintains situational awareness on each offensive AAW and air defense sortie. Members of the current operations section achieve situational awareness in part by establishing close and continuous

communications with each Marine aircraft group and forward operating base's air boss. The air boss is the individual at the MAGTF controlled forward operating base responsible to the TACC for decentralized coordination and execution of the air defense fragmentary order. He coordinates with and briefs each air defense aircrew before they launch and debriefs them upon recovery. He prioritizes ordnance loading and fueling of air defense aircraft. Based on the forward operating base's base defense zone procedures, the air boss establishes launch/recovery priorities with the MATCD or Marine air traffic control mobile team. The air boss concept may or may not occur at a joint task force/host country-controlled air facility.

In addition to coordination with the Marine aircraft groups and the air boss, current operations also builds situational awareness through coordination with the SAAWC, TAOC, MATCDs, and joint force air defense agencies. Situational awareness is enhanced through activation and maintenance of digital data links with naval, joint, and multinational air command and control agencies. Members of current operations normally perform the data link interface coordination duties for the MACCS.

Based on recommendations from subordinate MACCS units and the situational awareness gained from the previously described sources, the TACC may direct that aircraft be diverted from their scheduled missions to meet immediate needs for higher priority threats; i.e., time-sensitive targets. The TACC directs establishing air defense warning conditions for the MAGTF and weapons release conditions for aircraft operating within the MAGTF's assigned air defense sector as shown in tables 6-1 and 6-2, page 6-8.

Future operations conducts detailed planning and coordination to build the next ATO. Future operations conducts direct coordination with the ACE commander and ACE operations officer to determine the allocation of ACE resources needed for future AAW operations. Future operations also coordinates with naval and joint force aviation to determine needed up-front sorties for air defense, air reconnaissance, and air interdiction missions.

Current and future operations maintain close and continuous liaison with the joint force's J-3, JFACC, and AADC as needed. This ensures that the TACC and the SAAWC receive the status of joint force sorties available to support the MAGTF's current and future operations.

Table 6-1. Weapons Release Conditions.

| Weapons Control Status | Description |
|------------------------|--|
| Free | Engage all aircraft not positively identified as friendly. |
| Tight | Engage any aircraft positively identified as hostile. |
| Hold | Do not open fire or cease fire on aircraft currently engaged. Do not fire except in self-defense or in response to a formal fire control order. |

Table 6-2. Air Defense Warning Conditions.

| | |
|--------|--|
| Red | Attack by hostile aircraft is imminent or in progress. |
| Yellow | Attack by hostile aircraft is probable. |
| White | Attack by hostile aircraft is improbable. |

Sector Antiair Warfare Coordinator

The SAAWC and his staff interface with the TAOC controllers and the ACE commander's battlestaff. The SAAWC is the ACE commander's air defense battle manager. He coordinates and manages all active air defense weapons (aircraft and surface-to-air weapons) within his assigned sector, and functions to the extent of the authority delegated to him by the ACE commander. The TACC plans, allocates, and provides assets to the SAAWC to manage and commit to current AAW operations. In turn, the SAAWC provides recommendations for detailed planning of future operations to future operations. When delegated the authority by the ACE commander, the SAAWC can divert aircraft to attack offensive antiair warfare time critical targets and to respond to immediate air defense requirements. When authorized by the ACE commander, the SAAWC can establish air defense warning conditions within his designated sector.

Tactical Air Operations Center

The TAOC performs real-time control of fighter aircraft and surface-to-air weapons. By using system state, fuel state, and weapons state, the TAOC controls missile units and aircraft committed to a weapon engagement zone. The TAOC provides the TACC and SAAWC with the current status of committed/on-

station assets. The TAOC also establishes follow-on/replacement weapons platform requirements.

Weapons Platforms

Personnel manning weapons platforms (aircraft and Stinger teams) are responsible for conserving and managing fuel and ordnance to increase a platform's performance. Weapons platform operators provide their equipment/system state, fuel state, and weapons state to the TAOC's weapons section. If the TAOC becomes a casualty and no alternative ground agency can perform integrated weapons management, senior platform personnel may manage similar assets within a WEZ.

Basic considerations to determine threat levels, positioning weapons, and exercising command and control are essential to understanding AAW operations. The rest of this chapter covers the types of operations normally conducted by MAGTF's and how AAW contributes to the MAGTF commander's single battle concept.

AMPHIBIOUS OPERATIONS

Amphibious operations are attacks launched from the sea by naval and landing forces, embarked in ships or craft involving a landing on a hostile or potentially hostile shore. (JP 1-02) Amphibious operations are designed and conducted to prosecute further combat operations; obtain a site for an advanced naval, land or air base; deny use of an area or facilities to the enemy; or to fix enemy forces and attention, providing opportunities for other combat operations. JP 3-02, *Joint Doctrine for Amphibious Operations*, provides the overarching doctrine for conducting amphibious operations. Assaults, raids, demonstrations, and withdrawals are types of amphibious operations. Other operations may be conducted by amphibious forces, e.g., NEOs and humanitarian assistance.

Forces assigned to conduct an amphibious operation task-organize as an amphibious force. The amphibious force is normally part of a larger NEF. The amphibious force is composed of Navy and Marine Corps forces.

Force protection for the amphibious force during movement to the operational area is a high priority. AAW operations conducted by naval forces provide

the required force protection and achieve air superiority for the landing force to project combat power ashore. The Navy is responsible for AAW during movement of the landing force to the operational area. Landing force aviation and Navy aircraft operating from supporting aircraft carriers and air defense-capable ships provide air defense weapons platforms and capabilities. Landing force assets aboard amphibious ships support the Navy's point defense for the ships; e.g., AV-8s, air-to-air capable helicopters, and Stinger teams.

Since Navy and Marine Corps units have organic aviation, they work in concert to support the amphibious force. Landing force assets can enhance or augment Navy antiair warfare assets, but potential loss or expenditure of finite landing force resources may affect the MAGTF's ability to accomplish objectives ashore.

Although the amphibious assault is the principal type of amphibious operation, anti-air warfare actions will normally follow a similar pattern despite the type of operation. AAW operations that support amphibious operations are grouped into pre-D-day, D-day, and post-D-day (if the MAGTF is established ashore) operations. AAW assets require careful planning. Training and rehearsals can ensure that personnel and equipment meet combat readiness requirements.

Pre-D-Day Operations

Depending on the threat, pre-D-day AAW operations may include neutralizing or destroying enemy air defense, aircraft, airfields, supporting infrastructure (including command and control), and theater missile capabilities. Pre-D-day offensive anti-air warfare operations achieve the air superiority for the MAGTF to conduct operations. They shape the battlespace for the main assault and create opportunities for the MAGTF commander to exploit during the main assault. The Navy normally controls the airspace and may be tasked as an area air defense commander for a specific region or sector during pre-D-Day amphibious operations. The MAGTF commander provides anti-air warfare support to the Navy commander during this period. Landing force assets may be tasked to provide emergency defense of the amphibious ships.

D-Day Operations

AAW operations on D-day and beyond are geared toward maintenance of air defense and air superiority for the MAGTF's operations ashore, whether an

assault, raid or NEO. The critical part of this phase is the actual landing of the MAGTF ashore. Anti-air warfare operations initiated during pre-D-day should continue as preparation of the landing area continues. Aviation, naval surface fire support, sea-based surface-to-air weapons systems, and infantry weapons provide most of the anti-air warfare fires until artillery and ground-based air defense assets have landed and are operational ashore.

The Navy normally retains controls of the airspace and air defense operations and the Navy tactical air control center. Navy, Marine Corps and joint anti-air warfare assets are integrated to maintain air superiority.

Air defense capabilities are normally established and built up ashore. Capabilities include ground-based surface-to-air weapons, aircraft, surveillance assets, and command and control agencies. After landing force (MAGTF) assets and units are established ashore, transfer of specified operations may pass from the Navy to the MAGTF. If the MACCS is established ashore, the MAGTF may assume control of the airspace and air defense for its area of operations.

Initial Air Defense Capability Ashore

Initially, aircraft operating from supporting aircraft carriers or forward operating bases provide airborne air defense ashore. Stinger teams operating in direct support of the ground combat element are the first ground air defense capability established ashore. Stinger teams supporting the assault unit may initially collocate and coordinate their activities with forward air controllers to deconflict supporting friendly aircraft from enemy aircraft. Deconfliction and coordination of air defense aircraft (operating feet-dry) and direct support Stinger assets occur between air warfare commander and the Stinger unit commander. Established return-to-force procedures and ROE must be briefed in detail and understood by all air defenders and fixed-wing and rotary-wing aircrews. See figure 6-1, page 6-10.

The Stinger team's section leader, located in the assault unit's fire support coordination center, supervises and controls the Stinger teams. The senior Stinger commander ashore establishes communications with the Stinger sections ashore and with the Navy tactical air control center. The unit commander afloat provides hostile early warning alerts to Stinger sections and team commanders ashore. The senior Stinger commander ashore provides threat, engagement, and status information to the unit commander afloat.

Air Defense Buildup Ashore

As the landing force's follow-on GCE and CSSE resources phase ashore, additional air defense assets also phase ashore as soon as possible. The GCE's follow-on infantry, artillery, and armor units may be accompanied by additional Stinger assets assigned in either general or direct support and light armored vehicle (air defense) variants to provide air defense for screening forces. The CSSE may also have Stinger assets assigned in direct support. General support Stinger assets establish a comprehensive low-altitude air defense of the force beachhead and integrate with the assault force's direct support Stinger assets. The platoon commanders of Stinger assets in general support coordinate their activities with the Stinger commander located with the TACC afloat. The senior direct support Stinger commander may integrate his forces with the DASC after it phases ashore and becomes operational. This integration provides comprehensive and timely deconfliction and coordination of friendly aircraft and enemy aircraft.

During the buildup of MAGTF air defense ashore, Marine wing communication squadron detachments, Marine wing support squadrons, and Marine air traffic control detachments establish forward operating bases ashore. Forward operating bases allow MAGTF aircraft (including antiair warfare-capable platforms)

to establish forward bases ashore. As forward operating bases are established ashore and LF aircraft begin using the forward operating bases, ground-based air defense assets must provide air defense. Once the forward operating base is operational and MAGTF air defense assets are available, a forward operating base defense zone must be established and coordinated with the air warfare commander. See figure 6-2.

The early introduction of Stinger sections and an early warning and control site from the TAOC ashore extends shipboard weapons employment, radar surveillance, identification, and coordination/control capabilities. The Stinger section, if provided with an acquisition radar, and the early warning and control elements provide initial engagement, early warning, cueing, and surveillance capabilities against the enemy aircraft and missile threat. The TAOC's early warning and control site also initiates data link connectivity with ATF and other air defense units.

Data between the early warning and control site's radars and Navy capable platforms is also exchanged through the cooperative engagement capability (CEC). Over the CEC link, radar data is shared between sensors. This shared data provides a composited, nearly continuous track on all aircraft and theater missiles detected by sensors. CEC significantly increases the engagement envelope of ground- and surface-based air

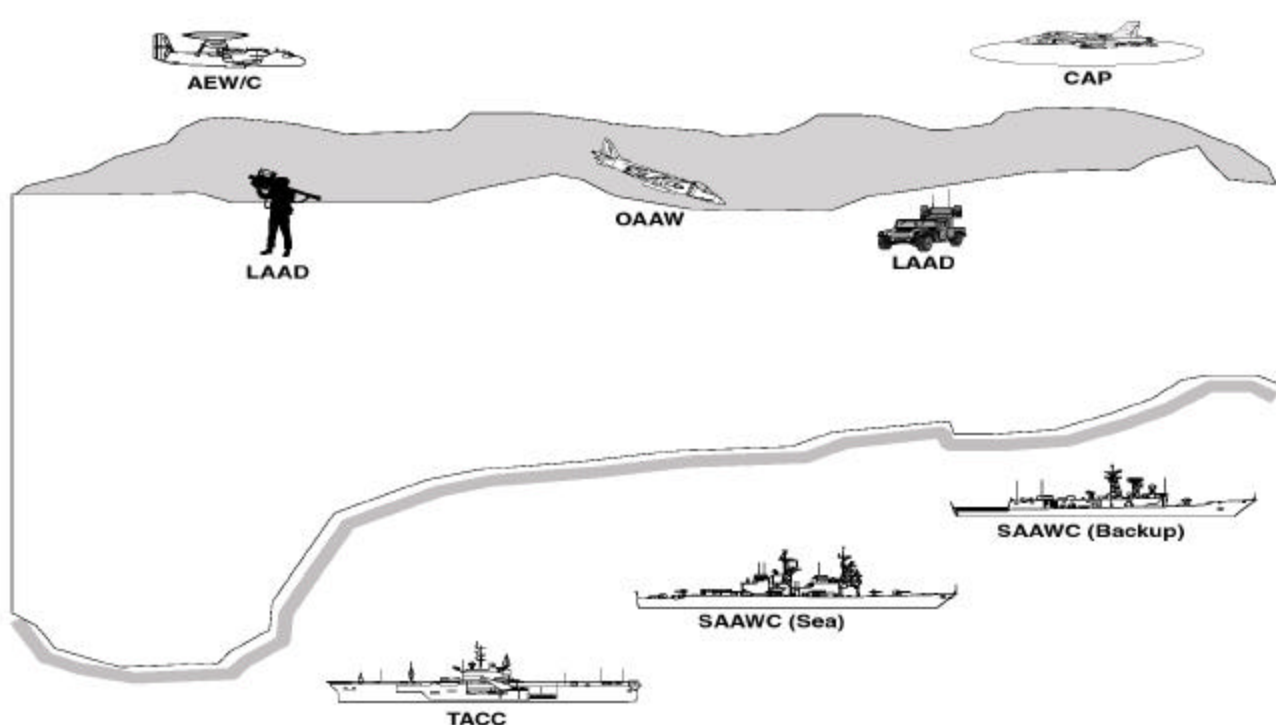


Figure 6-1. Notional Initial Air Defense Capability Ashore Laydown.

defense weapons by providing the weapon systems with fire quality control data from nonorganic surveillance sources. This data provides weapon systems with the potential to engage and fire on targets outside the radar horizon of their own sources.

With the introduction of the early warning and control site ashore, general support Stinger platoon commanders/section leaders may collocate at command and control nodes to facilitate exchange of surveillance/identification information with the early warning and control site, landward SAAWC, and the TACC afloat.

The ACE commander, normally through the Marine SAAWC/TAOC, activates missile engagement zones as operationally required. Control agencies must coordinate flight paths to prevent landing force aircraft from penetrating a missile engagement zone unless absolutely necessary. Typically, activating a missile engagement zone changes RTF and ROE procedures in the initial assault phase. All control agencies, controllers, and aircrews must adhere to the new procedures.

As additional general support Stinger assets move ashore, remaining TAOC equipment and personnel phase ashore. Liaison is established with the landward SAAWC to coordinate MAGTF AAW operations. Once the TAOC and Stinger assets are operational, they establish and maintain the required voice and digital information links with the landward SAAWC.

Post D-Day Operations

Depending on the type of operation, the MAGTF commander establishes air control facilities ashore as required by transferring control ashore. These facilities provide increased surveillance, quicker response to air defense threats and offensive antiair warfare targeting, and extend the ATF's weapons control capabilities. Initially, air control agencies ashore operate as an adjunct to agencies afloat. Air control agencies ashore assist as needed and monitor air control aspects (including communications circuits) directly related to their tasking. As the MACCS becomes functional and able to assume

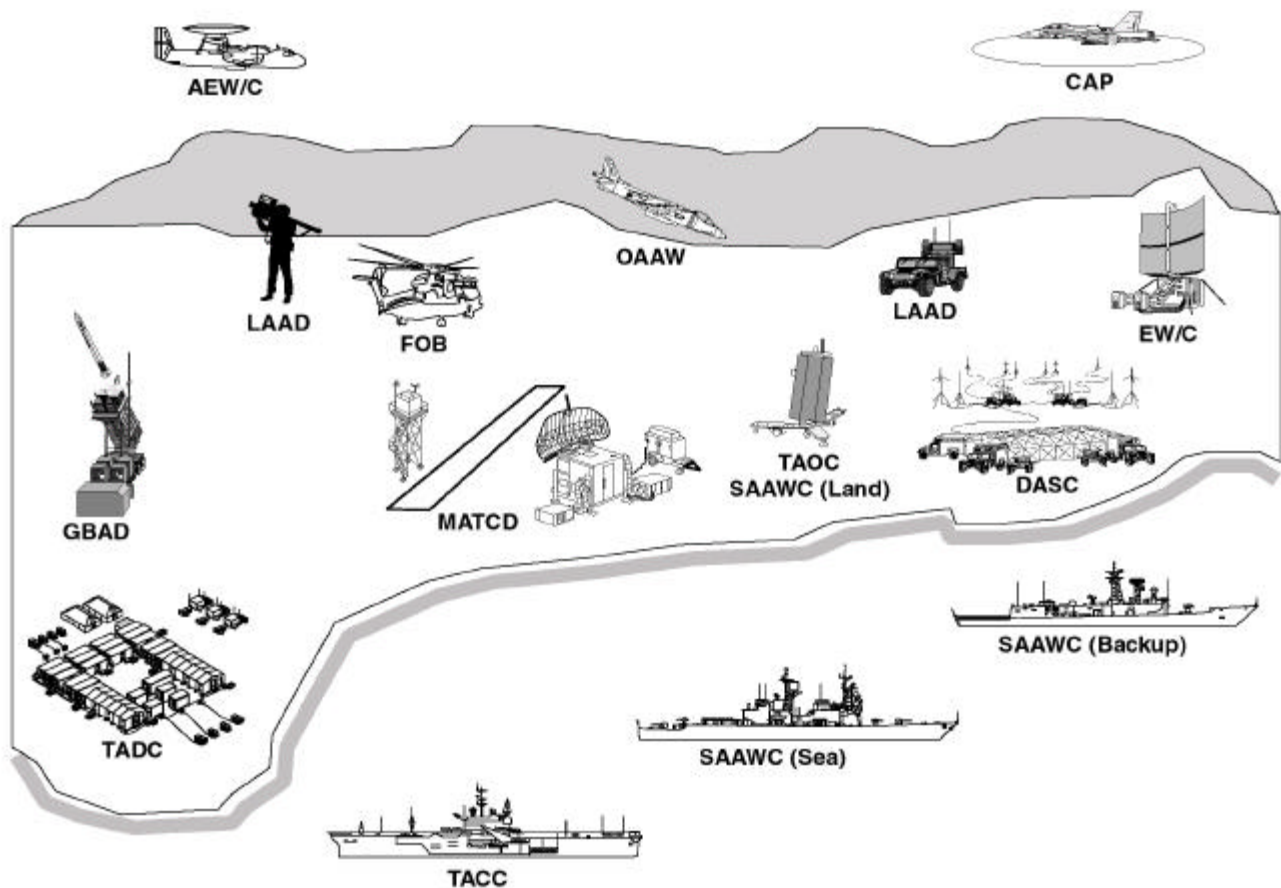


Figure 6-2. Notional Air Defense Buildup Ashore.

greater airspace control responsibilities, the Navy may incrementally pass control of some parts of the operation to the MAGTF. The decision to phase ashore all or parts of airspace and air defense control is based on the mission, the type of operation being conducted, the ability to establish agencies ashore, the tactical situation, and the MAGTF commander's recommendation to phase functions ashore. During the phasing of airspace and air defense control ashore, Navy control units afloat monitor the progress of assumption of air control responsibilities ashore, and can act in a backup or alternate role if required. See figure 6-3.

Once the DASC is ashore and operational, control of offensive air support and assault support aircraft phases ashore. As part of its offensive air support control responsibilities, the DASC may also process immediate requests for attacks against time critical targets and SEAD missions in support of OAAW operations.

With the introduction of ground-based air defense assets and the early warning and control site ashore, air intercept zones and fighter engagement zones are also established for aircraft and missile intercept zones; missile engagement zones are established for surface-to-air missile units. As the MAGTF's IADS of interlocking engagement zones is established, a change of RTF and ROE procedures may occur. Once the TAOC is ashore and operational, control of air defense of the landward sector (including theater missile defense) phases ashore to the landing force SAAWC.

Before transferring control of air operations to the MACCS units ashore, the MACCS must establish an integrated and comprehensive surveillance plan for the MAGTF. Surveillance resources are employed ashore based on their capability and coverage. The Marine control group commander, staff, and subordinate unit commanders must thoroughly analyze the surveillance requirements of the MAGTF's sector of responsibility. They must address terrain and its masking effects, threat axis of attack, and available surveillance resources. They must also identify the—

- 1 Location of the TAOC and its radars, the early warning and control site, and gap-filler radars.
- 1 Ability of Marine air traffic control radars at forward operating bases to augment the surveillance system and base defense zone concept.

- 1 Location of Stinger units in general and direct support.
- 1 Orientation of aircraft weapon engagement zones. Resources used in weapon engagement zones should provide specific airborne surveillance or weapon capabilities in a sector that other surveillance sources cannot see.

Marine air control group planners must also identify to the ACE commander any other specific requirements of aircraft surveillance capabilities; e.g., airborne early warning and control and surface-to-air weapons.

A complete and effective surveillance system is required for effective integrated air defense. Once the system is established, the TAOC's surveillance section coordinates surveillance information. The surveillance section coordinates input from the TAOC's sensors and all other surveillance sources. The surveillance section identifies detected air tracks and uses organic and remote sensor data and data link information to build a complete and comprehensive air picture. This air picture is used by the ACE commander and the IADS to gain situational awareness of ongoing aviation operations.

The SAAWC, collocated with or in the TAOC, may assume some current operations functions of the MATCD as TADC equipment and personnel phase ashore. Once phased ashore, the SAAWC manages the MAGTF's AAW assets and coordinates landward air defense, AAW and other air operations as required with the Navy TACC.

The SAAWC is the MAGTF commander's air defense battle manager. He commits AAW resources to missions tasked by the MAGTF or ACE commander. The Navy's air warfare commander must coordinate with the MAGTF or ACE commander to request support. Only the MAGTF or ACE commander has the authority to commit MAGTF aviation resources.

As the MATCD becomes operational, it establishes the required communications with the DASC, TAOC, forward-based landing force aviation units, and the Navy tactical air control center. The MAGTF commander can request that control of the airspace be transferred ashore. If approved, the MATCD then becomes the TACC, and the Navy tactical air control center becomes a TADC. Only one TACC is active in an operational area at one time.

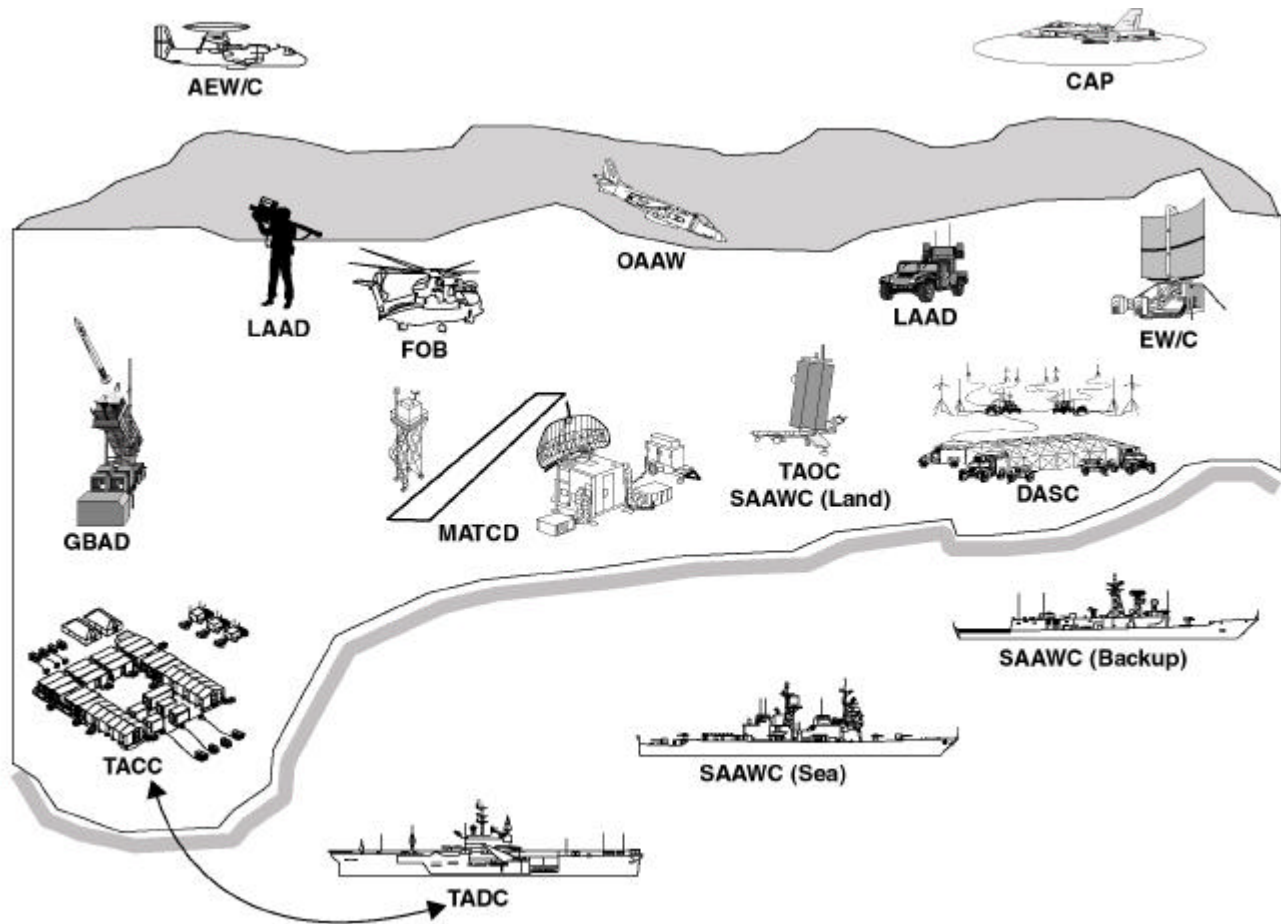


Figure 6-3. Transfer of Control Ashore.

MILITARY OPERATIONS OTHER THAN WAR

Military operations other than war (MOOTW) are operations that encompass the use of military capabilities across the range of military operations short of war. These military actions can be applied to complement any combination of the other instruments of national power and occur before, during, and after war. (JP 1-02)

MOOTW and conventional warfare share similarities. Both involve demonstrations of political resolve and, when necessary, the use of force to complete a mission. Both are inherently conducted in support of national objectives. War is conducted to achieve national objectives through large-scale, sustained combat; MOOTW are conducted to deter war and promote peace.

AAW operations are conducted in MOOTW as well as in war. The MAGTF uses the same resources in both situations. Although tactics may be the same, ROE will be the principal guideline for the degree that AAW is employed in MOOTW.

JP 3-07, *Joint Doctrine for Military Operations Other Than War*, describes many types of MOOTW; the types having AAW roles follow.

Counterdrug Operations

Air defense surveillance radars track aircraft or air defense aircraft intercept and identify aircraft suspected of transporting drugs.

Enforcing Exclusion Zones

Air defense aircraft and radars can enforce no-fly zones.

Ensuring Freedom of Navigation and Overflight

AAW aircraft provide escort or enforce freedom of navigation activities in international airspace as recognized by the International Civil Aviation Organization.

Noncombatant Evacuation Operations

AAW resources provide air defense for security of landing zones and MAGTF assets.

Peace Operations

Peace operations encompass both peacekeeping operations and peace enforcement operations. AAW operations enforce peace treaties, cease fires or further enable the forcible execution of peace operations.

Protection of Shipping

AAW aircraft can provide CAP or escort for U.S. ships operating in international waters.

Strikes and Raids

AAW operations can damage, seize or destroy an objective for political purposes. AAW assets provide escorts for these strikes and raids, conduct SEAD or attack weapons of mass destruction facilities.

Show of Force Operations

Aircraft demonstrate U.S. resolve through high visibility operations to diffuse potentially hostile situations.

OPERATIONAL MANEUVER FROM THE SEA

Operational maneuver from the sea (OMFTS) is the Marine Corps' operational concept for the 21st century. OMFTS is not a tactic but a mindset regarding how MAGTFs will fight tomorrow's wars. OMFTS focuses on using sea, land, and air as maneuver space and maneuver and tempo to exploit enemy weaknesses and attack their center(s) of gravity. Under OMFTS, Marine forces will conduct amphibious operations and sustained operations ashore to support national policy. However, the methodology used in conducting OMFTS will differ significantly from our amphibious doctrine of today.

To transition from today's tactics to tomorrow's, methods and technologies needed to make operational maneuver from the sea a reality need to be investigated. The outcome of this investigation will hopefully enable the development of the tactics, techniques, and procedures needed to fight tomorrow's wars.

CHAPTER 7. JOINT AIR DEFENSE OPERATIONS

Joint air defense operations protect the joint force as a whole or as components from attack by hostile aircraft and missiles. The range of weapons systems, the ability to cross boundaries between component areas of operation, and the speed associated with air and missile attacks make joint air defense a responsibility of all components of the joint force. The intent of joint air defense operations is to successfully negate attacks by enemy aircraft and missiles by providing a seamless, fully integrated air defense system. METT-T is used to determine the extent to which air defense integration is accomplished, the employment of air defense systems, and the area of air defense coverage afforded by joint force resources.

THE JOINT FORCE COMMANDER

The joint force commander (JFC) is ultimately responsible for air defense of the joint forces. Normally, he has two options for delegating authority for the coordination of joint air defense operations: to his staff or to a functional component commander.

The JFC's staff is normally used to coordinate joint air defense operations when a conflict or situation is of limited duration, scope or complexity. When the JFC's staff is used to coordinate joint air defense operations, he may elect to centralize planning and coordinating functions within the staff while retaining the ability to directly task joint force air defense capabilities and forces. The JFC's staff functions to the extent of the authority given by the JFC.

The JFC's choice to use his staff for coordinating joint air defense operations is influenced by his span of control, the duration and scope of operations, and the degree of centralized planning and control needed to conduct effective air defense operations. The complexity of the operations is the primary consideration for the JFC in determining if his staff has the ability to coordinate joint force air defense operations. When the complexity of coordinating joint air defense operations exceeds the scope and capabilities of the JFC's staff, the JFC will designate a functional component commander to coordinate joint air defense operations. A functional component commander promotes unity of effort and increases the JFC's span of control through delegation of authority. The functional com-

ponent commander normally designated is the area air defense commander (AADC).

THE AREA AIR DEFENSE COMMANDER

The area air defense commander is normally the component commander with the preponderance of air defense capability and the command, control, and communications capability to plan and execute integrated air defense operations. (JP 1-02) The AADC is an individual; i.e., position, not an air command and control agency. The JFC defines the support relationship between the AADC and supporting commanders. All components will provide representatives to the AADC's headquarters to provide specific weapon systems expertise as well as broader mission expertise. The AADC normally exercises operational control over forces assigned or attached to him and tactical control over other military forces and capabilities made available for tasking. Responsibilities between joint air defense and joint airspace control are inherently interrelated. The JFC normally designates the same individual as AADC and airspace control authority. AADC responsibilities include—

- 1 Assessing the enemy order of battle and situation.
- 1 Developing and executing the joint air defense plan (a detailed plan to disseminate timely air and missile warning and cueing information to components, forces, allies and coalition partners, and civil authorities), as appropriate.
- 1 Developing and implementing identification and engagement procedures and ROE that are appropriate to the aircraft and missile threat.
- 1 Coordinating air defense operations with other component commanders.
- 1 Ensuring timely and accurate track reporting among participating units to provide a consistent common operating picture.
- 1 Establishing air defense regions or sectors to enhance decentralized control of joint air defense operations.
- 1 Establishing air defense warning conditions and weapons release conditions for the joint operations area.
- 1 Publishing technical and tactical operational data messages or operational task link messages for coordination of air defense and data link operations.

- Performing the duties of the airspace control authority when directed by the JFC.

Relationships with other component commanders and the AADC are established by the JFC. The JFC normally establishes AADC command relationships as shown in figure 7-1.

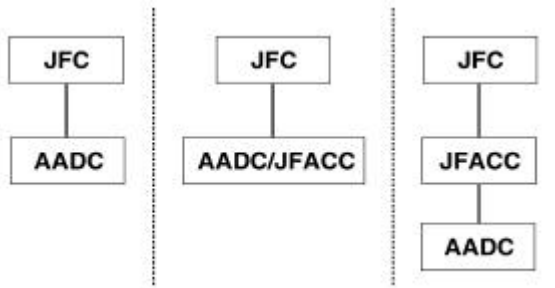


Figure 7-1. Options for AADC Designation.

The AADC as a Separate Functional Commander

The JFC may designate the AADC as an individual who has no other functional commander responsibilities. The AADC reports directly to the JFC relative to joint air defense matters. The AADC would also coordinate with other Service and functional commanders, including the JFACC, on area air defense. This arrangement is most beneficial when it is anticipated that functional responsibilities will pass from one component to another, such as the passing of AADC functions from afloat to ashore.

The AADC as a Combined Functional Component Commander

The JFC may designate one individual as the AADC and another functional component commander; e.g., the AADC as the JFACC. This individual performs the duties as the AADC and the JFACC, although the responsibilities of each functional area are separate but interrelated. The individual commander may use one or two staffs to fulfill dual responsibilities. This arrangement is most beneficial when high tempo, high intensity air and air defense operations facilitate unity of effort and enhance coordination between joint air and air defense operations.

THE AIR DEFENSE PLAN

The AADC, with the support and coordination of the Service and functional commanders, develops,

integrates, and distributes a JFC-approved joint air defense plan. It integrates the active air defense capabilities of the joint force's components to provide a responsive air defense system that will achieve both operational and tactical objectives. The air defense plan reflects the priorities established by the JFC. Because air defense, airspace control, and management functions are inherently interrelated areas, the air defense plan and the airspace control plan should be developed in tandem to avoid conflicts. Some items addressed are—

- Sensor employment.
- Identification procedures.
- Engagement procedures.
- Airspace control measures pertaining to air defense.
- Weapons control procedures.
- Weapons system employment.
- Tactical interface design; i.e., TADIL.
- Dissemination of early warning.

THE REGIONAL AND SECTOR AIR DEFENSE COMMANDERS

To enhance his ability, the AADC, in coordination with other component commanders, may recommend establishing air defense regions to the JFC. Air defense regions may be further subdivided into air defense sectors. The number of air defense regions and sectors will vary depending on geographical, political, and operational factors; e.g., friendly forces, geography, threat, and concept of operations. A regional air defense commander (RADC) is designated to coordinate air defense activities within each region. A sector air defense commander (SADC) is designated for each air defense sector. Responsibilities of both commanders may include, but are not limited to—

- Coordinating air defense actions between regions and sectors.
- Evaluating the results of engagements within their region or sector.
- Forwarding observations and results of engagements within their region or sector to the AADC.
- Requesting from the AADC or directing, when authorized, changes to the air defense alert and weapons release conditions commensurate to the threat.
- Requesting additional air defense assets from the AADC when necessary.

- | Guidance and direction for air defense warning conditions and weapons release conditions.
- | Changes to ROE.
- | Allocation of additional air defense resources as necessary or as available.
- | Requests for additional airborne air defense assets from the JFACC.

NOTIONAL JOINT AIR DEFENSE OPERATIONS

The area, regional, and sector air defense commanders can coordinate active air defense operations at the

lowest level. This concept of centralized command—exercised through the AADC—and decentralized execution—exercised through RADCs and SADCs—promotes coordinated operations and economy of force while allowing decisionmaking at the lowest level. Reaction time to the threat is enhanced and the likelihood of fratricide is reduced. See figure 7-2.

Based on the JFC's air defense priorities, the AADC builds an air defense plan designed to optimize the joint force's air defense capabilities against enemy air attack. When employing his available air defense resources, the AADC considers factors such as mutual support and destruction-in-depth to maximize engagement opportunities and protection of forces.

The AADC's air defense resources include air command and control agencies, surface-to-air weapon

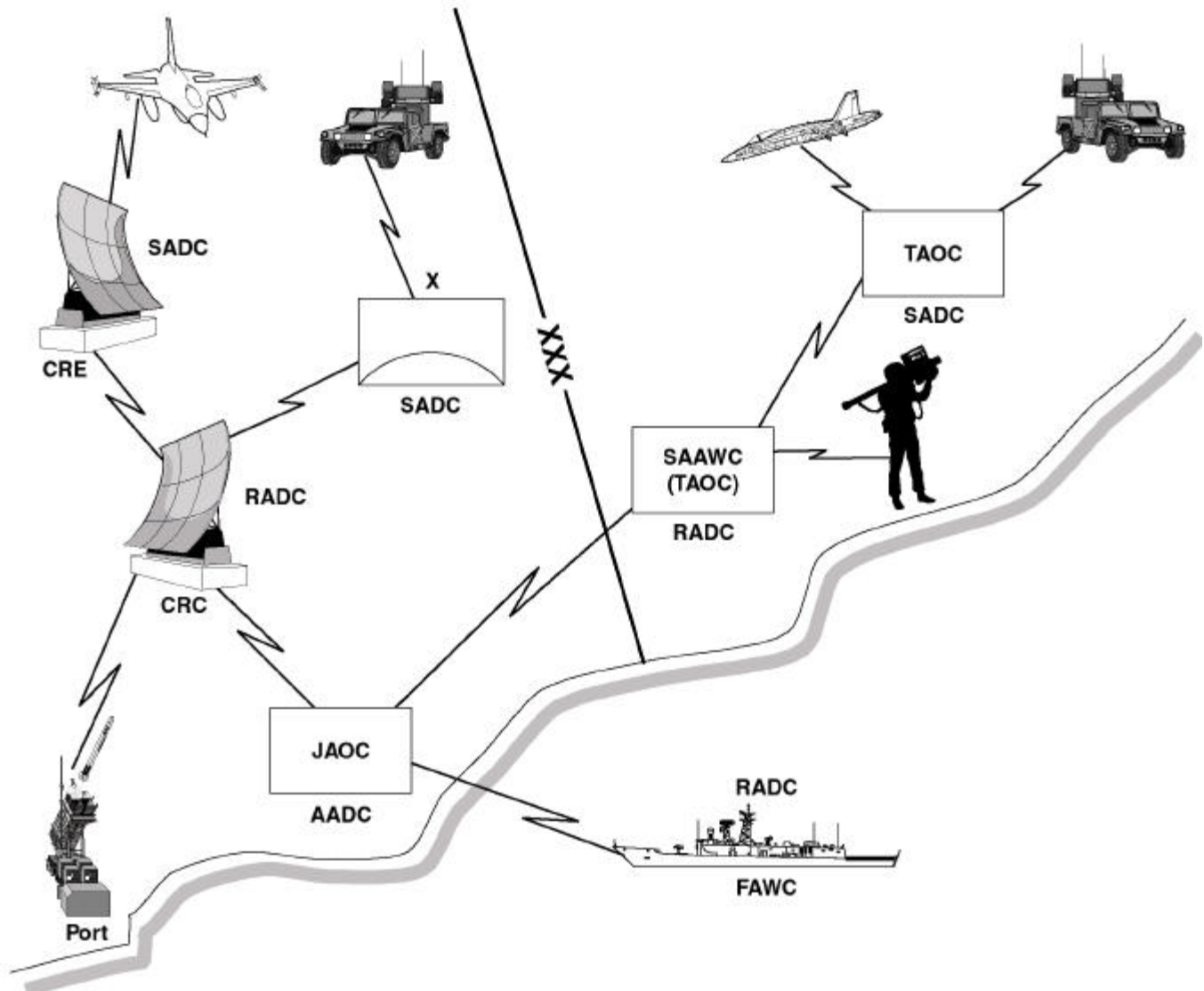


Figure 7-2. Notional Joint Air Defense Organization.

systems, and air defense aircraft. The AADC reviews air command and control agencies' locations to ensure overlapping air surveillance coverage of the joint operations area, thus enhancing mutual support and increasing opportunities for detecting threat aircraft and missiles. The AADC determines the positioning of those surface-to-air missile systems specifically designated for joint theater air and missile defense. The employment plan for components' surface-to-air missile systems is normally factored into the overall joint air defense plan to determine gaps in air defense coverage and to identify shortages in resources.

The JFACC allocates a percentage of aircraft to perform air defense missions based on the JFC's apportionment decision. The AADC typically allocates air defense missions to each RADC to perform air defense activities within each region. RADCs, in turn, distribute air defense aircraft to subordinate SADCs, depending on the anticipated need for air defense aircraft within their sectors. SADCs further distribute air defense aircraft to control agencies within their sector. It is the responsibility of controlling agencies to execute the air defense mission through the coordination, control, and integration of aircraft and surface-to-air weapon systems under their direction.

THE MAGTF AND JOINT AIR DEFENSE OPERATIONS

The MACCS is the principal conduit, which the MAGTF integrates with the joint air defense network. The senior agency of the MACCS, the tactical air command center (TACC), plans and coordinates MAGTF air defense operations with the AADC. The SAAWC assists in the near-term coordination and management of MAGTF-organic and joint force air defense resources allotted to the MAGTF by coordinating with the area, regional or sector air defense commander, as appropriate. The TAOC is the MAGTF's principal air defense agency responsible for the real-time execution of air defense operations. The TAOC, through the SAAWC, coordinates its activities with adjacent sector and regional air defense control agencies.

Currently, three Services have the command and control capabilities to perform area, regional or SADC functions: the United States Air Force, United States Navy, and United States Marine Corps. Capabilities are based on each Service's organic ability to communicate, surveil, coordinate, and command and

control all facets of joint air defense. The Navy provides a sea-based command and control capability that is best suited for maritime operations, but can also provide joint air defense coordination functions in the littorals. The Air Force's capabilities are land-based, focused on high-tempo, extended duration air defense operations in support of a major theater campaign. The MAGTF can perform joint air defense coordination functions in both littoral operations and sustained operations ashore. The MAGTF's expeditionary nature and orientation on the littorals are defining factors that planners must comprehend when assigning these functions to the MAGTF.

The MAGTF's ability to perform AADC functions is best described as an enabling or pass-through capability. The MAGTF is well-suited to function as AADC in littoral operations for limited time. Examples of the MAGTF performing AADC functions include—

- 1 The planned passage or transition of AADC functions from a sea-based facility to a shore-based facility (or vice versa)—similar to phasing control ashore—with the intent of the MAGTF passing those functions to another Service at a later time.
- 1 Or, if an unplanned transition, where the AADC is unexpectedly unable to perform its functions because of a catastrophic action that significantly curtails the ability of the primary AADC to perform its functions.

If designated as the AADC, the commander, Marine Corps forces may delegate the authority for air defense coordination to the MAGTF commander, who may delegate that authority to the ACE commander.

The ACE commander, acting as the agent for the AADC, uses a joint staff whose composition is representative of the joint force to plan, manage, and coordinate joint air defense operations. The TACC may host the AADC's staff, providing the necessary voice and data communications resources and planning tools to coordinate joint air defense operations. The TACC's battlestaff is responsible for the coordination and execution of MAGTF aviation operations and should not be considered a part of the AADC's joint staff. However, it is likely that TACC crewmembers will be used to augment and provide subject matter expertise to the AADC's staff.

The MAGTF's ACE does not have the resources to perform area air defense functions for extended durations or in support of large scale theater

operations without significant communications and personnel support. The requirement for the TACC to remain expeditionary should be considered when determining the scope and duration for MAGTF designation as the AADC.

Like the AADC, regional and sector air defense commanders are managers of air defense assets. The MAGTF possesses a robust capability to function as regional and sector air defense commanders in both amphibious operations and sustained operations ashore, with regional and sector air defense coordination activities falling well within the scope and capabilities of the MAGTF's existing air defense architecture.

The SAAWC, as the MAGTF's air defense battle manager, is the most likely candidate to perform RADC or SADC functions. Like the AADC, regional

and sector air defense commander positions are joint force billets. Joint staffs separate from the MAGTF air defense staff should coordinate region and sector air defense operations. If designated as the MAGTF's agent to perform regional or sector air defense commander functions, the SAAWC should ensure that liaisons from affected joint and multinational forces be included in his staff to facilitate planning and coordination of air defense operations.

As a RADC, the MAGTF's agent coordinates air defense operations directly with the AADC. As a SADC, the MAGTF's agent coordinates sector air defense with the RADC. Assuming these joint force responsibilities creates a requirement for dual reporting of air defense activities, one through joint reporting channels, and the other through the MAGTF's.